THE EVOLUTION OF THE DISEASE-ENTITY CALLED MANIO-DEPRESSIVE INSANITY, AND ITS MAIN FEATURES.*

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The term mania, which was in use at the time of Hippocrates, was derived, according to Esquirol, from a word signifying moon, from which the Greeks coined the word maniac, moon-struck and the Latins lunatic, words which are still in common use today.

When Hippocrates wrote his book on sacred diseases it was currently taught and believed that nervous and mental diseases were due to the agency of spirits or demons, which the ancients used in the sense of a guardian spirit—hence the expression, sacred diseases. Although his knowledge of the anatomy and physiology of the circulatory and nervous systems was so crude, Hippocrates was not only ahead of his time, but ahead of men that followed him for over two thousand years, in recognizing that insanity was a disease of the brain—a disease of the body, like other diseases.

In his book, De Morbo Sacro, Hippocrates says: (1) "The so-called sacred disease does not seem to me to be any more godly or sacred than other diseases; on the contrary, it seems to me to have natural causes, which bring it about." "I do not believe that the human body can be made unclean by the deity, the impure by the pure." "Were these diseases (insanity in general and epilepsy in particular) more godly than any of the other diseases, then they would develop equally among all human beings and would show no difference between the bilious and mucous constitutions, but the internal occasional cause of the illness lies as in some other important diseases in the brain. Mankind must know that pleasant sensations such as joy, laughter, humor, originate from no other organ than that of the brain; so also sorrow, pain, despondency, and loud weeping. Through this organ we especially perceive, think, see and hear, differentiate between the morally beautiful and hideous, the evil and the good, furthermore the agreeable and the disagreeable, differentiating in part according to laws derived from customs, in part perceiving the use itself. Through this organ we recognize according to circumstances agreeable and disagreeable sensations, through this part (of the body) we do not at all times find pleasure in one and the same object. Through the same organ, however, we fall into frenzy, incoherent talk, and find ourselves surrounded by day as well as by night, by terrible phantoms and objects inducing fear; dreams are started, inopportune errors (illusions), unnecessary sorrows, incognizance of existing circumstances, unwontedness and inexperience: All this emanates from the brain. When the brain has become more moist than it is naturally, it is set into motion; if, however, the diseased part is stirred up, then neither can the sense of vision nor that of hearing rest, but must soon see this or hear that and the tongue must likewise pronounce that which at every moment is alleged to be seen or heard. So long as the brain remains at rest, so long is the human being in possession of full consciousness. The brain is the messenger of the power of thought." These wonderfully correct ideas as to the functions of the brain and nature of insanity did not, however, prevail long. Insanity came to be looked upon more and more as a demoniacal state, and with the advent of Christianity and the growth of the church-power, the persons so afflicted were believed to be individuals who on account of their sinfulness were possessed of evil spirits and were cared for accordingly. Maltreated by priests and tortured by reason of their supposed witchcraft, the poor wretches who happened to suffer from this disease received no sympathy and no care, which state of things has lasted until comparatively recent times. Even during the last century has progress been slow in lifting the veil of religious superstition and soul-philosophy from the true nature of the insane state.

In his second book of diseases (De Morbu Liber Secundus), Hippocrates speaks of melancholy as a disease in which the bile has become depraved, black, and rushing to the brain obscures the animal spirits and produces delirium. He says: (2) "The patient has a sensation as if he were pricked with thorns, becomes afflicted with anxiety, dreads the light and people, loves darkness and becomes tormented with fear. He takes fright easily, sees in dreams frightening images and phantoms of terror, even at times deceased persons. If one does not treat the patient with the greatest care, the disease will follow him until he dies."

Religious melancholy was at that time regarded as dependent upon the course of the stars, its periodicity strengthening this belief. However, not only did the ideas of the ancients on the subject of being possessed by spirits, and as to the influence of the moon and the stars upon the insane, prevail through the middle ages to comparatively recent times, but the doctrine expressed by Hippocrates that bile played an important role in insanity was likewise suppressed with difficulty. Even Esquirol in his publication of 1845 says in one place: (3) "It is certain that the word melancholy often presents to the mind a false idea, for melancholy does not always depend upon the bile." To the manifestations of melancholy enumerated by Hippocrates, Areteus and Galen added fury. When this was present in mania they also made use of the term melancholy. From the time of the last mentioned writer (131-200 A. D.) to the middle of the 19th century great fluctuations and uncertainties of opinion were expressed with regard to what constituted the condition known as mania and melancholia. About the time of Pinel less importance was placed upon the state of the affects in the application of melancholia to mental conditions, and more upon the delusions or fixed ideas present, for which reason Chiarurgi advised to name the condition at that time known as

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melancholia, insanity of fixed ideas, afterwards called monomania by Esquirol. Rusk, in his publication of 1812, divided melancholy into two forms; the on e characterized by sadness he called tristimania; the other, in which the opposite emotion predominated, he called amenomania. Esquirol, in his "treatise on insanity," makes use of the term, "lypemania," from a word which means to render sad, and mania a synonym of melancholy. He says: "The word meloncholy employed in the language of common life to express that habitual state of sadness from which some people suffer, should be left exclusively to moralists and poets, who in their signification are not obliged to employ so much precision as physicians." In this manner the usage of the two terms, melancholia and mania, fluctuated until the application became definitely settled upon conditions respectively associated with depression and elated excitement.

For centuries it has been known that certain cases of insanity, which were subject to outbursts of excitement, would have these attacks at shorter or longer intervals during which the patients would be lucid or apaprently normal. The same was observed with regard to depression. Hippocrates had even observed that attacks of maniacal excitement would sometimes begin with a melancholy disposition. In more recent times it was found that melancholy spells would develop in cases where previously the attacks had been of a maniacal character. This led to the epoch-making publication by Falret in 1851, of his folie circulaire, which three years afterwards was pronounced a disease-entity by Falret and Baillarger, independently of each other. Diagnosis in psychiatry had in all cases been symptomatic prior to the publication of this work by Falret with the exception of the classical research by Bayle on general paralysis, made about thirty years previously. These two investigators were the first to apply the clinical method to the study of mental diseases. The symptomatic classification named these diseases from some prominent symptoms without due regard to etiology, detailed symptomatology, course and termination. In a paper, "On the methods of later psychiatry," Dr. Clarence B. Farrar says: "Not diseases, but individuals, should be the prime objects of study, not the ability to discover symptoms sought which shall go to make up an external pathological entity, but rather to appreciate in its nature the diseased personality by establishing its variations, fine and coarse, in all the phases of mental life, not from an arbitrary norm, but from the 'norm of the individual himself,' which may depart widely from any given average, and which must be determined anew in each succeeding case. The dangers, however, of metophosing symptom-complex into disease-entity are shown no better than by following the part which the amentia of Meynert has played in the history of insanity. During the first decade after it was described in 1881, the diagnosis of amentia found astoundingly increasing favor until in numerous clinics it came to cover perhaps half the cases." In this manner the introduction of new symptom-complexes has led to a redistribution of the percentages of cases under the new class. Such an accumulation of cases under one heading took place when the appellation, paranoia, was extended until it spread its winys over a number of subforms.

Instead of studying isolated phenomena and placing undue importance upon them Kraepelin followed along the lines of Falret's ideas of circular insanity, making a synthetic study upon a broad and comprehensive basis of the forms of psychosis previously classified under mania proper, melancholia proper, the periodical and circular insanities and a number of transitional forms, grouping them into one large unit or group, the so-called Manisch-depressives Irresein or manio-depressive insanity. The variability of these different forms was found to be due to the varying force with which the fundamental elements of thought, sensation and motility enter into the pathological state of the affects. Under this influence the disease-picture may vary greatly, according to the degree of impulse acting sometimes upon one, sometimes upon another of these elements, leading to the development of a disease-picture of elated excitement or depression, or these conditions may be present alternately in the same attack.

It is characteristic of this group that the attacks terminate favorably, but leave behind a disposition to renewal of the attack, and that transition into other forms of mental disease, such as general paralysis, exhaustion-psychoses, mental enfeebleness or paranoia are not met with.

As to the clinical characteristics of the cases brought together under the head of manio-depressive insanity, we find that the perceptive faculty is only in the mild cases uninfluenced. When the excitement is vivid, it suffers because of the greater susceptibility to diversion, so that the patient is stimulated by every impression without being able to give it proper mental elaboration. Such cases do not show increased attention, on the contrary the apperception is diminished, the units of perception are loosely joined together, reminding one of conditions in fatigue or alcoholic stimulation. During the depressive phase, the conception of what has been perceived is much impeded. Hallucinations are not frequently observed, illusions only now and then. The fleetness of the apprehension facilitates the development of false perceptions—persons and objects are misjudged. There is a disturbance of mental associations.

In mania there is in every concept, according to Kraepelin, a loose connection between the sound picture and its optic written-picture and the motor-speech idea of every word. The association process is not accelerated, as might appear at first glance; the development of the speech-idea is simply facilitated as compared with the elaboration of the concepts. The patients commence to rhyme, make witty remarks, declaim, sing, etc. These fleeting thoughts do not have a fixed aim or object, but stray away, changing the theme with each new external impression, leading to flight of ideas, which in very acute cases may become a flighty confusion.

In exact contrast to the flight of ideas we find a thought-inhibition (Denk-hemmung) which may be more or less marked during the depressive phase and in certain mixed forms of manic stupor. The various ideas are developed slowly and only upon forced stimulation—the trend of thought progresses with difficulty. The patients hesitate and are slow in collecting their thoughts.

The mood is usually elevated during maniacal excitement. The patients are jolly, laugh, sing, make fun of everything, the condition of the mood varying from quiet cheerfulness to ungovernable mirth, the latter being often interrupted by outbreaks of anger characterized by the most inconsiderate scoldings and disposition to violence. At the same time the mood shows a tendency to make a remarkably quick change to sadness or lachrymoseness, although usually only for a short time. This observation has been taken by Kraepelin to show the close relationship of the maniacal and depressive states. During the latter the disposition is regularly gloomy, hopeless, despairing or anxious, although there probably are cases where the inhibition or resistance is not associated with any marked coloring of the emotions. The patients in the state of depression often have a feeling of loss of internal emotional response. To them everything seems deserted, empty and indifferent. During states of excitement the disease-picture is controlled by a tendency to be busy and to talk. They make jests with those around them, are full of mischief, sing, dance, and decorate themselves with rags, etc. In spite of this excessive motor excitement, which may last for weeks and months, the patients seem to lack a feeling of fatigue, probably in part on account of a dulled sensitiveness, and in part because of the ease with which the central liberation of the movements takes place. The same is true with regard to the talkativeness and maniacal flight of ideas, which finally lack logical connection, becoming what has been termed logorrhœa. The handwriting shows the same flightiness, its character varies, the strokes become larger and more hasty, show underscorings, etc. During the phase of depression the contrast of this craving for activity sets in in the form of psychomotor inhibition. The central liberation of acts becomes impeded until activity is entirely done away with, irresoluteness resulting in the mild cases, while in the stuporous forms there is a complete absence of expressions of will-power. These psychomotor disturbances have been studied by Kraepelin by means of a special apparatus (Schriftwage), the force and the duration of the muscular movements being graphically recorded and measured, showing marked contrasts in the character of the writing during the periods of depression and excitement. Judgment is quite superficial in mania. The apparent quickness at repartee and witticisms do not reach beyond the level of social chat. Delusional expressions sometimes reveal themselves, although they may not be expressed in earnestness. The patients often apply all sorts of names and titles to those around them; even grandiose ideas are met with in maniacs, reminding one of the demented delusions of general paralytics, while feelings of insufficiency, ideas of persecution and sinfulness develop in the depressed state. The memory is usually found intact, if one can once get the attention and responses from the patients. Amnesia is only present in cases of extreme excitement and confusion. The facial expression in mania shows all the intermediate states from that of good humor, jolliness and hearty laugh to those of boisterousness and the most ungovernable outbursts of laughter or of anger and irritability. During depression the mien is sober, sad, grave—seldom anxious. The body weight diminishes during the excitement quite considerably, sometimes 50 per cent. Constipation and vomiting spells are sometimes present, which latter in states of depression may be voluntary and practiced to such an extreme as to make nourishment where tube feeding is required very difficult. The appetite is quite good as a rule in maniacs, while during depression one may have to resort to forced feeding. The tongue is more or less coated. The pulse-frequency and respiration are sometimes normal, sometimes increased in mania, decreased in depression. The blood-pressure is in mania low, in depression high. There is a slight rise of temperature in mania—.6° (C) in the evening, .2° in the morning. Vasomotor disturbances, such as cyanosis of fingers and face, are sometimes observed in states of depression. Symptoms of hysteria and other evidence of changes of the nervous system are met with. Headache, noises in the ears, vertigo, præcordial anxiety and disturbances of sensibility may be present. Stuporous cases often show complications of tuberculosis and pleurisy. Maniacal excitement is usually preceded by a prodromal state which may last days or weeks and during which headache, loss of appetite and sleep, and often expressions of despondency are noticed. This is then followed by a change to an elated mood; a motor restlessness sets in and the patient has new and great plans to carry out, becomes talkative, etc. The milder forms have been termed hypomania (Mendal), the mildest, mania mitis. The inexpedient name, mania sine delirio, and the French term "folie raisonnante" have been applied to forms of hypomania as signifying an insanity without disturbances of the understanding. In the more acute forms, mania gravis acuta, "Tobsucht," the patient becomes raving, noisy, destructive, violent and confused, hallucinatory and delusional. Still another form not, however, often met with, of a delirious nature (mania deliriosa) is characterized by rapid development, dream-like clouding of consciousness with numerous hallucinations and confessed delusions. Kraepelin describes this form as having a sudden onset, one or two days, seldom weeks, and of comparatively short duration—a few days or at the most three or four weeks. The cases usually quiet down rapidly, recovering after some weeks with more or less amnesia of the past. The more common forms of maniacal excitement are slower in improving, and frequently we find insertions of gloomy depression and even temporary stupor, a demonstration which Kraepelin says gives us an understanding of the so-called

mixed forms. While the duration of the average case may be a few weeks, it frequently lasts months and now and then two or three years. The disappearance of the maniacal excitement is followed by a more or less pronounced period of prostration and despondency, which has been looked upon as exhaustion from the severe illness, but which has been regarded by Kraepelin and his pupils as a reversal to the depression characteristic of the disease-entity.

The depressive phase shows mainly the three fundamental symptoms above mentioned; gloomy depression, psychomotor inhibition, and inhibition of the associative processes.

The mildest forms present simply psychic inhibition without hallucinations and without pronounced delusions. Thought-activity is impeded, the mood is gloomy, hopeless. The patient has no aim in life, doubts the existence of God, is disinherited by fate; compulsory ideas often come to the surface, he worries against his will, and is forced to think of obscene sexual ideas in connection with the crucifix or other religious pictures, etc. There is marked loss of energy—he is without courage and without will-power. The least exertion is performed with difficulty. It is for this reason that attempts at suicide are not so common even in cases in which the patient wishes he was dead. As inhibition diminishes and energy returns, despondency still existing, attempts at suicide become more frequent and dangerous, and this may be so, even at the beginning of convalescence. In spite of the marked impediment to apprehension and thought-activity, and in spite of the existence of fallacious ideas, the lucidity and orientation are intact, the patients have in fact usually a vivid realization of sickness, even sometimes a certain disease-insight—sometimes speak of themselves as being crazy.

In severe cases of psychic inhibition a pronounced stupor develops, depression with stupor. The patients are unable to comprehend the impressions from their surroundings, are unable to elaborate them, do not understand the questions put to them and have no idea of their situation.

With these symptoms we find in a third group of cases, various fallacious ideas especially of sinfulness and persecution, which sometimes assume a hypochondriacal tone called depressive Wahnsinn (depression with delusions). In some of the cases complicated with delusions the consciousness becomes clouded—the patients sink into a dream-state (Daemmerzustand). Besides the maniacal and depressed states we meet with mixed states in which symptoms of each phase are intermingled in the case at the same time.

(a) Weygandt speaks of (4) a maniacal stupor in which a psychomotor inhibition is combined with an elated, maniacal mood where usually an inhibited thought-activity takes the place of the flight of ideas.

(b) An agitated depression, corresponding to the melancholia agitata, the negative picture of the manio-stuporous state, in which we find a gloomy mood combined with excitement and flight of ideas; often an intensely depressive state of the affects with suicidal ideas; disposition to self-mutilation, refusal of food, self-accusations—the patient being at the same time easily diverted.

(c) A third form he calls unproductive mania in which an elated mood is associated with psychomotor excitement and impeded or impoverished thought-activity—i. e., mania with thought inhibition.

(d) Finally he speaks of atypical mixed states —for instance, depression with inhibition and flight of ideas, instead of impediment of thought-activity.

Manio-depressive insanity is frequently observed among the insane. Kraepelin found it in 10 to 15 per cent of his admissions, and the cause lies chiefly in a neuropathic disposition. Hereditary disposition was found by Kraepelin in 80 per cent of his cases. The disease sets in in more than two-thirds of the cases before the age of twenty-five years, especially as regards the female sex. The development of the disease is as a rule independent of external influences. Diseases with fever, surgical operations, etc., may occasionally play a secondary role. That this is so is best shown by the disposition of the disease to repeat itself. I have seen a case (a young man) pass through eleven distinct attacks during the first year of the disease followed by an increase in the length of the free interval as the disease progressed, the first attacks recurring almost as regularly as the menses of a woman. In another case I could trace the maniacal and depressive phases at irregular intervals over a period of over fifty years, the history in this case showing a gradual diminution in the duration of the free interval. This periodicity has given to the disease in the past the names of periodical insanity, periodical mania, periodical melancholia and circular insanity, periodical paranoia. While the attacks repeat themselves, they vary greatly in character, duration and intensity. The beginning of the disease is in 60 per cent of the cases a depressive phase, especially in young women. The duration of the individual attacks varies greatly. Some last but eight to fourteen days—undoubted morbid mental depressions or excitements have even been known to run their course in one or two days, but as a rule a single attack lasts six to eight months. On the other hand, attacks have been known to last through two or even three to four years. Kraepelin even saw one case terminate in recovery after seven, another after ten years. While the disease is characterized by periodicity, one single attack during life is met with. Weygandt found it in 4 per cent of his cases.

As to the nature of manio-depressive insanity very little is known. The frequent relapses and great variability in the character of the attacks are unsolved phenomena. Meynert has attempted to explain them as based upon periodical disturbances of the state of irritability of the cerebral vasomotor centers leading to an increased or diminished quantity of blood flowing to the brain—i. e., first producing an anæmia as cause of the depression, which in turn is supposed to lead to defective nutrition and paralysis, and in consequence cerebral hyper-

æmia, which is said to be the underlying cause of the maniacal excitement. The great variation in body weight might lead one to suspect that metabolic disturbances may play a role; and (5) Carl Lange has in fact described peculiar periodical states of depression with psychic inhibition in which there was a decided uric-acid diathesis. (6) Albrecht claims to have found that one-third of the cases of manio-depressive insanity of all ages show arterio-sclerosis, while cases of alcoholism show it in only 40 per cent of the cases, and quiet patients of dementia præcox in only 10 per cent. Arterio-sclerosis sets in earlier in cases of manio-depressive insanity than in the more quiet class of patients—in one-third of the cases between forty and fifty; in one-half between fifty and sixty; while in dementia præcox it begins beyond sixty years.

(To be Continued.)

THE UNDERLYING CAUSES OF RHEUMATISM.*

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In discussing the underlying causes of rheumatism, it is necessary to carefully consider the present scope of the term, and to remember that its use is not now confined to the pathological condition for which the name was coined, but has been extended to embrace many different pathological processes. In fact, its limits of application in painful or inflammatory affections of muscles, nerves or joints are restricted only by our ability to discover causal factors in these affections that would render a diagnosis of rheumatism unnecessary. In this sense, therefore, the term expresses not a disease but a group of symptoms, one or more of which may result from numberless diverse pathological processes.

These symptoms are pain, tenderness to pressure, and inflammatory swelling in the neighborhood of joints. Constitutional disturbances usually accompany the inflammatory conditions, but pain alone, or pain accompanied by tenderness of the painful parts, or by muscular stiffness without tenderness, may exist without giving rise to any appreciable general disturbance, and herein lies the distinctive difference between the various forms of so-called rheumatism.

If, therefore, we are to consider the application of the term rheumatism in its present broad scope, no single etiological factor can account for the great degree of variance in symptoms, and it becomes necessary to speculate on the possible causes of these symptoms. There are, of course, numerous well-known diseases with symptoms readily mistaken for those of rheumatism, yet even if we exclude all diagnostic errors from this source, there still remain at least four different conditions that may produce the symptoms of rheumatism. They are infection, intestinal autotoxæmia, metabolic disturbances and arterio-sclerosis.

That infection is one of the causes of rheumatism, particularly of the acute and subacute articular types, is now a well established fact. The only question to be settled regarding the etiology is whether the symptoms are due to a specific micro-organism, sometimes acting alone and sometimes in conjunction with other infectious organisms, or whether any of the infectious micro-organisms might not under certain conditions give rise to the articular outbreaks. Recent investigations strongly favor the theory of a specific etiological agent, the investigators contending that, where the symptoms occur as a complication of other infectious diseases, they are due to a mixed infection, the specific agent of rheumatism being superimposed upon that of the original infection, the joint symptoms resulting from the new infection. This of course only holds good for typical acute and subacute articular rheumatism.

There are articular inflammations that we know to be due to the presence in the joints of certain other microbic agents, such as we find in gonorrheal and pneumococcic inflammations, but here the whole course of the disorder is entirely different from that of articular rheumatism, and should not be classed in the same category. That an infectious foci can not always be detected in these cases, is no proof that it does not exist. Careful examination will ofttimes enable us to discover it in the most unlooked-for localities, such as the nasal sinuses, naso-pharynx, etc. The gastro-intestinal canal may furnish the infection, and it may even be presumed that the smoldering elements of infection be present on cardiac valves damaged by previous attacks of rheumatism. Very small foci of infection are capable of furnishing sufficient toxins to produce articular and constitutional symptoms, as in a case of obstinate subacute rheumatism, where several small pustules were discovered accidentally on the patient retching during an examination of the mouth. The pustules were situated at the apices of both tonsils, hidden by the pillars of the fauces, and only to be seen when carried forward by the effort at retching. As rapid recovery from the rheumatism symptoms followed the puncture and treatment of these pustules, it was presumed that they were the source of the infection. There is one point worthy of notice in relation to the infectious forms of rheumatism. It is that they are usually of an articular type, and are accompanied by certain symptoms common to infectious diseases—i. e., fever, sweating and leucocytosis. On the other hand, the muscular affections and the neuralgic conditions that are for want of a better name classed as rheumatism, frequently run their course without any apparent constitutional symptoms whatever, and leucocytosis is the exception rather than the rule. As they bear none of the marks of an infectious disorder, we must look to other than infectious causes for their origin. Disturbed metabolism may cause the production of substances that are capable of giving rise to painful

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